

REMARKS

This Amendment is fully responsive to the non-final Office Action dated May 20, 2010, issued in connection with the above-identified application. Claims 14-26 are pending in the present application. With this Amendment, claims 14 and 26 have been amended. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

I. Interview Summary

The Applicants thank Examiner Cerullo for granting the telephone interview (hereafter “interview”) conducted with the Applicants’ representative on August 12, 2010. During the interview, the distinguishable features between the present invention (as recited in independent claim 14, as an exemplary independent claim) and the Ohi reference were discussed in detail. Proposed claim amendments to more clearly distinguish the present invention (as recited in independent claim 14) from the cited prior art were also discussed.

During the interview, it was agreed that the proposed claim amendment of “wherein with respect to each of the division ranges, a synthetic gamma-characteristic of the pair of gamma-characteristic selected by the selection portion is closest to a reference gamma-characteristic at the front vision” would likely distinguish the independent claims from the Ohi reference.

However, the Examiner also suggested additional amendments to the independent claims. In particular, the Examiner suggested that the limitation “synthetic gamma-characteristic” (i.e., if added to the claims) be further defined to clarify its meaning.

At the conclusion of the interview, the Examiner agreed that the proposed amendments would likely be sufficient to overcome the current prior art rejections if filed in a formal response to the Office Action. However, the Examiner also indicated that further search and consideration of the prior art would be necessary before making a final determination regarding the allowability of the claims.

II. Rejections under 35 U.S.C. 103

In the Office Action, claims 14-16 and 23-26 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohi et al. (U.S. Patent No. 5,847,688, hereafter “Ohi”) in view of Matsushita (Japanese Publication No. JP 2003-255908, hereafter “Matsushita”), and further in view of Greier et al. (U.S. Publication No. 2002/0149598, hereafter “Greier”) and Ikezaki (U.S. Patent No. 5,489,917, hereafter “Ikezaki”).

The Applicants have amended independent claims 14 and 26 to help further distinguish the present invention from the cited prior art. The amendments to independent claims 14 and 26 are consistent with the amendments proposed during the interview with the Examiner conducted on August 12, 2010 (hereafter “interview”). For example, independent claim 14 (as amended) recites *inter alia* the following features:

“[a] matrix-type display apparatus which drives a display panel including a plurality of pixels disposed in matrix form and displays an image, comprising:

a converting portion adapted to gamma-convert an input video signal, using n (which is an integer of two or above) pairs of gamma-characteristics each made up of first and second gamma-characteristics different from each other, the gamma-characteristics being a transmittance characteristic according to an input level and the n pairs of gamma-characteristics being different from each other; and...

wherein the selecting portion produces a synthetic gamma-characteristic which is a gamma-characteristic synthesized from the first gamma-characteristic and the second gamma-characteristic, by switching between the video signal gamma-corrected by use of the first gamma-characteristic of the selected pair of gamma-characteristics and the video signal gamma-corrected by use of the second gamma-characteristic of the selected pair of gamma-characteristics using the distribution area ratio and

with respect to each of the division ranges, the synthetic gamma-characteristic of the pair of gamma-characteristics produced by the selecting portion is closest to a reference gamma-characteristic at the front vision.” (Emphasis added).

The features emphasized above in independent claim 14 are similarly recited in independent claims 26 (as amended). Specifically, independent claim 26 is directed to a method that recites steps directed to the features emphasized above in the apparatus of independent claim 14. Additionally, the features emphasized above in independent claim 14 (and similarly recited in independent claim 26) are fully supported by the Applicants’ disclosure (see e.g., pg. 15, line 17-pg. 16, line 27).

As noted above, independent claims 14 and 26 have been amended to include the proposed amendments suggested during the interview. Additionally, the Applicants have further amended the claims to clarifying the meaning of “synthetic gamma-characteristic,” as suggested by the Examiner.

More specifically, as recited respectively in independent claims 14 and 26, the selecting portion and step “produces a synthetic gamma-characteristic which is a gamma-characteristic synthesized from the first gamma-characteristic and the second gamma-characteristic, by switching between the video signal gamma-corrected by use of the first gamma-characteristic of the selected pair of gamma-characteristics and the video signal gamma-corrected by use of the second gamma-characteristic of the selected pair of gamma-characteristics using the distribution area ratio.”

Additionally, independent claims 14 and 26 have been amended to recite that “with respect to each of the division ranges, the synthetic gamma-characteristic of the pair of gamma-characteristics produced by the selecting portion is closest to a reference gamma-characteristic at the front vision.”

In the Office Action, although the Examiner relies on the combination of Ohi, Matsushita, Greier and Ikezaki for disclosing or suggesting all the features recited in independent claims 14 and 26, the Examiner relies on Ohi for disclosing or suggesting the features of the converting portion (or step) and the selection portion (or step) recited respectively in independent claims 14 and 26.

With regard to the converting portion (or step), the Examiner relies on elements 14 and 15 in Fig. 6 of Ohi. As described in Ohi, element 14 is a holding circuit and element 15 represents gamma-conversion circuits. However, Ohi specifically states that “*R, G and B signals corresponding to the same pixel are gamma-converted in accordance with the same gamma characteristics.*” (Emphasis added).

Whereas, as recited in independent claims 14 and 26, gamma-conversion of an input video signal is done using n pairs of gamma-characteristics “*each made up of first and second gamma-characteristics different from each other.*” (Emphasis added).

Although the Examiner refers to col. 5, lines 20-24 of Ohi for disclosing first and second gamma-characteristics different from each other, Ohi at col. 5, lines 20-24 does not appear to even refer to gamma-correction.

Moreover, as noted during the interview, nothing in Ohi discloses or suggests “producing a synthetic gamma-characteristic synthesized from the first gamma-characteristic and the second gamma-characteristic, by switching between a video signal gamma-corrected by use of the first gamma-characteristic of the selected pair of gamma-characteristics and a video signal gamma-

corrected by use of the second gamma-characteristic of the selected pair of gamma-characteristics using the distribution area ratio,” as recited in independent claims 14 and 26 (as amended).

Additionally, nothing in Ohi discloses that “with respect to division ranges, the synthetic gamma-characteristic of the pair of gamma-characteristics produced is closest to a reference gamma-characteristic at the front vision,” as recited in independent claims 14 and 26 (as amended).

With the above features of the present invention (as recited in independent claims 14 and 26), the most suitable pair of gamma-characteristics closest to a reference gamma-characteristic at a front vision (0 degrees) can be used with respect to all the division ranges. Thus, the most suitable viewing angle characteristic can be realized with respect to all the ranges of the transmittance to be used for display.

At best, Ohi merely discloses that if the viewing angles are different when a person looks at the display apparatus, the transmittance of the display panel is different (see col. 5, lines 29-38). Thus, Ohi fails to disclose or suggest a range of the transmittance to be used for display (i.e., the division of ranges obtained by dividing the range of the input level of the video signal before gamma-converting). Thus, it logically follows that Ohi also fails to disclose or suggest the use of a synthetic gamma-characteristic with respect a range of the transmittance to be used for display.

As noted above, Matsushita, Greier and Ikezaki are not relied on for disclosing or suggesting the above features of the converting portion (or step) and the selection portion (or step), as recited in independent claims 14 and 26. Additionally, Matsushita, Greier and Ikezaki fail to overcome the deficiencies noted above in Ohi with the regard to the use of a “synthetic gamma-characteristic.”

Accordingly, no combination of Ohi, Matsushita, Greier and Ikezaki would result in, or otherwise render obvious, independent claims 14 and 26 (as amended). Likewise, no combination of Ohi, Matsushita, Greier and Ikezaki would result in, or otherwise render obvious, claims 15, 16 and 23-25 at least by virtue of their dependencies from independent claim 14.

In the Office Action, claims 17-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Ohi, Matsushita, Greier, Ikezaki, and further in view of Yamashita (U.S. Publication No. 2001/0026258, hereafter “Yamashita”).

Claims 17-22 depend from independent claim 14. As noted above, Ohi, Matsushita, Greier and Ikezaki fail to disclose or suggest all the features recited in independent claim 14 (as amended). Additionally, Yamashita fails to overcome the deficiencies noted above in Ohi, Matsushita, Greier and Ikezaki. Accordingly, no combination of Ohi, Matsushita, Greier, Ikezaki and Yamashita would result in, or otherwise render obvious, claims 17-22 at least by virtue of their dependencies from independent claim 14.

III. Conclusion

In light of the above, the Applicants submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the rejections presented in the outstanding Office Action, and pass the application to issue. The Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues.

Respectfully submitted,

Katsuyuki ARIMOTO et al.

/Mark D. Pratt/

By 2010.08.20 12:37:57 -04'00'

Mark D. Pratt

Registration No. 45,794

Attorney for Applicants

MDP/clw
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
August 20, 2010